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# Foreign Animal Disease Report

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United States  
Department of Agriculture

Animal and Plant  
Health Inspection Service

Veterinary Services

Emergency  
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## Emergency Programs Activities

**Field Investigations.** A total of 45 investigations of suspicious foreign animal diseases (FAD) were conducted by veterinarians from the U.S. Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Veterinary Services (VS), and State departments of agriculture during the first 3 months of 1992. No FAD or pests were found.

There were 12 investigations conducted in 8 States of the Northern Region, 14 investigations in 7 States of the Southeastern Region, 11 investigations in 7 States of the Central Region, and 8 investigations in 4 States in the Western Region. The following is a summary of investigations conducted according to suspected diseases or conditions: vesicular conditions 18, mucosal conditions 4, exotic Newcastle disease 8, avian influenza 1, encephalitic conditions 2, and undesignated conditions 12.

During the first half of fiscal year (FY) 1992, a total of 72 investigations were conducted.

**Surveillance Activities.** VS officials recently confirmed that two species of myiasis-producing flies previously found only west of the Mississippi River have been discovered in Miami, FL.

The chain of events began in October 1991, when VS collected larvae from a lesion of a chamois at a Miami zoo. Shortly after the National Veterinary Services Laboratories (NVSL) in Ames, IA, identified the larvae as belonging to the *Chrysomya* genus, additional *Chrysomya* larvae were collected from Puerto Rico.

As a result of these findings, and in order to further identify the flies, traps for adult flies were set in the Miami area. Adult flies collected from these traps were identified as *Chrysomya megacephala* and *Chrysomya rufifacies*. Previously, *C. megacephala* had been identified in Texas and California in 1989; *C. rufifacies* had previously been found in Arizona, California, Texas, and other Western States. Neither fly had previously been identified east of the Mississippi River.

The identification of *Aponomma flavomaculatum*, a parasite of lizards and snakes, was reported in February 1992 by NVSL. The parasite was collected from a Nile monitor in a pet store in Casper, WY.

NVSL also reported the identification of *Amblyomma sparsum* on January 17, 1992. The nymph of the tick was collected from a tortoise. All animals and premises were treated according to an approved protocol.

### **Velogenic Viscerotropic Newcastle Disease**

In April 1992, carcasses of 61 juvenile yellow-naped Amazon parrots (*Amazona ochrocephala auropalliata*) were submitted to the Diagnostic Virology Laboratory at NVSL for virus isolation. The carcasses of the parrots had been kept frozen in a house in south Texas, where they were obtained by the U.S. Department of the Interior and provided to VS. NVSL reported that a suspension of lung tissue and tracheal and cloacal swabs from each parrot was inoculated into embryonating chicken eggs. Newcastle disease virus (NDV) was isolated from all 61 birds. The NDV isolates were characterized as velogenic viscerotropic Newcastle disease (VVND) by its pathogenicity for chickens and by monoclonal antibody typing. The exact origins of the 61 parrots and the dates that each was acquired have not been determined.

Swabs were taken from the birds remaining on the premises to determine if they were infected. All of the swabs were negative for NDV as determined by inoculations of embryonating chicken eggs. Birds that had moved from the premises were traced and swabbed. All birds remained negative on virus isolation.

(Dr. M. A. Mixson, VS, APHIS, USDA, Hyattsville, MD 20782, 301-436-8073)

**USDA/Industry Roundtable.** The USDA/Industry Roundtable met on March 24, 1992, to exchange information on and make recommendations for enhancing preparedness in handling FAD emergencies. Sixteen industry and APHIS representatives attended. Industry representatives asked that the number of meetings be increased to twice a year so that the representatives will be better informed of program activities and disease and pest threats.

**Emergency Preparedness.** Computer specialists and disease reporting officers of the Regional Emergency Animal Disease Eradication Organizations (READEO's) met in March to explore ways to enhance reporting procedures for emergency disease surveillance and emergency operations.

Commissioners of the North American Foot-and-Mouth Disease Vaccine Bank held a teleconference on March 6, 1992. Items covered included the approval of the 1992 budget, liaison with the European Vaccine Bank, and a report on the progress in procuring additional antigen.

A READEO workshop was held in Arlington, TX, at the offices of VS' Central Region, February 24–26, 1992. The workshop covered team building, emergency preparedness, READEO planning, READEO alerts, activation of personnel, animal disease control, eradication strategies, and READEO management during an emergency. A short disease exercise was also conducted. Twenty-four READEO officers and staff participated.

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This update consolidates information from Office International des Epizooties (OIE) bulletins into tables covering October, November, and December 1991. Countries reporting disease outbreaks are listed below the appropriate disease heading (followed by the month/year of the report and total number of outbreaks reported for that time period). The notation “+” indicates that the presence of disease was reported without information on total number of outbreaks. Outbreak number followed by “+” indicates number of outbreaks as well as the presence of disease.

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**Foot-and-Mouth Disease**

*Virus Untyped*

Algeria (11&12/91) 7  
Argentina (4,7&8/91) 51  
Bhutan (9–11/91) 11  
Chad (6&8–12/91) +  
Morocco (11&12/91) 26  
Myanmar (9/91) 1  
Niger (1,2&8/91) 10  
Pakistan (9&10/91) +  
Paraguay (10&11/91) 11  
Thailand (7–11/91) 12  
Uganda (7&8/91) 2

*Virus O*

Algeria (6–8/91) 60  
Argentina (4,7&8/91) 11  
Colombia (9&10/91) 16  
Hong Kong (7&8/91) +  
Morocco (8–10/91) 7  
Oman (7–10/91) 53  
Pakistan (9&10/91) +  
Paraguay (10&11/91) 7  
Saudi Arabia (4&8/91) +  
Thailand (8–11/91) 21  
Tunisia (4–7,10&11/91) 30  
Turkey (9&10/91) 81  
Venezuela (4,7–9/91) 4

*Virus A*

Argentina (4,7&8/91) 21  
Armenia (10/91) 1  
Colombia (9–11/91) 10  
Ethiopia (10/91) 1  
Ghana (6–8/91) 35  
Pakistan (9–11/91) 4+  
Paraguay (9/91) 2  
Saudi Arabia (6–8/91) +  
Thailand (10/91) 4  
Turkey (9/91) 13  
Venezuela (1–4,8&9/91) 11

*Virus C*

Argentina (4&7/91) 9  
Bhutan (10/91) +

*Virus SAT 1*

Kenya (8&10/91) +  
Zimbabwe (10/91) 1

*Virus SAT 2*

Namibia (8&9/91) 2

*Asia 1*

Pakistan (9&10/91) +  
Thailand (7–11/91) 20

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**Vesicular Stomatitis**

*Virus untyped*

Mexico (11&12/91) 3  
Myanmar (1&3/91) +  
Panama (10&11/91) 2

*Virus New Jersey*

Colombia (9–11/91) 75  
Costa Rica (8&9/91) 4  
El Salvador (8&9/91) 7  
Guatemala (7–9/91) 5  
Honduras (7&8/91) 17  
Mexico (12/91) 1  
Nicaragua (8/91) 2  
Venezuela (1,8&9/91) 4

*Virus Indiana*

Colombia (9–11/91) 63

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**Rinderpest**

Ethiopia (5&10/91) 9  
Oman (8–10/91) 6  
Russian Federation (12/91) 1  
Sudan (4/91) 1  
Turkey (10/91) 17  
Uganda (9/91) 1

**Peste des petits  
ruminants**

Ethiopia (10/91) 3  
Ghana (7/91) 2  
Guinea (10–12/91) +  
Oman (7–10/91) 47  
Senegal (8–10/91) 9

**Contagious bovine  
pleuropneumonia**

Central African Republic (11/91) 1  
Ethiopia (10/91) 3  
Guinea (10–12/91) +  
Italy (10–12/91) 8  
Kenya (9/91) 4  
Namibia (12/91) 1  
Niger (2,7&8/91) 3  
Portugal (8–11/91) 373  
Uganda (1–8/91) 44

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**Lumpy skin disease**

Botswana (8–10/91) +  
Chad (11/91) +  
Ethiopia (1&10/91) 2+  
Madagascar (1&2/91) 42  
Senegal (9/91) +  
South Africa (9–11/91) +  
Uganda (1–8/91) 36  
Zambia (6–9/91) 7+  
Zimbabwe (10–12/91) 7

**Rift Valley fever**

Mozambique 9&10/91 +  
Zambia (6–9/91) +

**Bluetongue**

Israel (10&11/91) 5  
South Africa (9–11/91) +  
United States (10–12/91) +

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**Sheep and goat pox**

Algeria (6,8–12/91) 29  
Israel (11&12/91) 38  
Niger (1–9/91) 107  
Oman (7–10/91) 14  
Pakistan (9–11/91) +  
Senegal (8&9/91) 2+  
Togo (9/91) 3  
Tunisia (1–10/91) 70  
Turkey (9&10/91) 91

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**African horse sickness**

Morocco (8–10/91) 41  
Mozambique (9&10/91) +  
Senegal (8–10/91) 4+  
South Africa (9&10/91) +

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**African swine fever**

Italy (10&11/91) 5  
Portugal (10/91) 2  
Spain (10&11/91) 23  
Uganda (1,2,4,6&7/91) 14

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**Bovine spongiform encephalopathy**

France (12/91) 1  
Switzerland (10/91) 1

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**Teschen disease**

Madagascar (1/91) 2

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**Fowl plague**

Niger 4,6&8/91 3  
Pakistan 9–11/91 +

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**Newcastle disease**

Albania (4/91) 1  
Algeria (6/91) 1  
Colombia (9–11/91) 1+  
Congo (1–10/91) +  
Egypt (11/91) 1  
Ethiopia (10/91) 2  
Germany (12/91) 1  
Ghana (6–9/91) 22  
Guinea (10–12/91) +  
Hong Kong (10/91) +  
Madagascar (1&2/91) 7  
Mexico (10/91) 2  
Mozambique (9&10/91) +  
Netherlands (12/91) 1  
Niger (4/91) 6  
Pakistan (9–11/91) +  
Portugal (9/91) 2  
South Africa (10/91) 2  
Tunisia (1&5/91) 6  
Turkey (9&10/91) 7  
Uganda (1–8/91) +  
Yugoslavia (8&9/91) 7  
Zambia (6–9/91) +

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**Velogenic viscerotropic Newcastle disease virus**

Botswana (8/91) 2  
Kenya (3&9/91) 3  
Maurice Island (7&8/91) 4  
Myanmar (9–11/91) 6  
South Korea (9–11/91) 7  
Sudan (2–4,8&9/91) 8+

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**Hog cholera**

Argentina (4,7&8/91) +  
Austria (10/91) 2  
Byelorussia (10/91) 1  
Chile (10&11/91) 3  
Colombia (9–11/91) 9  
Czechoslovakia (10–12/91) 11  
Italy (10/91) 1  
Japan (10/91) 1  
Madagascar (1&2/91) 2  
Mexico (9–11/91) 12  
Philippines (7,9&10/91) 1+  
Russian Federation (12/91) 3  
South Korea (9–11/91) 6  
Taiwan (9–11/91) 9  
Uruguay (10&11/91) 4  
Venezuela (6/91) 1  
Yugoslavia (8–10/91) 13

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**Swine infertility and respiratory syndrome**

France (11/91) 2

(Dr. Peter Fernandez, International Services, APHIS, USDA, Hyattsville, MD 20782, 301-436-8892)

## Status of the Screwworm Outbreak in Mexico

Eradication of screwworms in Mexico began in 1972. Mexico was technically free of screwworm on July 10, 1990, and was officially declared screwworm free on February 25, 1991. The eradication program in Guatemala began in 1988, and sporadic cases continue to be reported along its borders with Honduras and El Salvador. Sterile flies have been released in Belize since August 1989, and no positive screwworm cases have been reported in that country since October 1991.

On January 22, 1992, a sample of third-instar screwworm larvae was collected in the Mexican State of Campeche. Between then and July 3, 1992, 51 additional samples were confirmed as screwworm. The cases are distributed in the States of Campeche (13), Tabasco (10), Chiapas (14), Veracruz (7), and Tamaulipas (8).

All eight cases in Tamaulipas occurred near the city of Aldama. Of these, the closest infestation is approximately 121 miles from the U.S. border in Texas. This situation is of some concern because the Tamaulipas cases are located approximately 440 miles from the outbreak in four southern Mexican States. The specific locations and information are as follows:

Municipality	Date of collection	Coordinates	Description
Villa Aldama	4/22/92	23°04' x 97°57'	Bovine
Villa Aldama	5/15/92	23°19' x 98°03'	Eggs and first-instar larvae, in bovine
Soto la Marina	5/21/92	23°21' x 97°52'	Third-instar larvae, in bovine during the dehorning process
Gonzalez	5/25/92	23°01' x 98°38'	Second- and third-instar larvae, in bovine
Villa Aldama	5/19/92	23°06' x 97°53'	Third-instar larvae, in bovine
Villa Aldama	6/06/92	23°08' x 98°06'	Bovine
Soto la Marina	6/15/92	24°04' x 97°50'	Ovine
Villa Aldama	6/22/92	23°08' x 98°11'	Bovine

Although epidemiologic tracebacks have not been completed, the outbreak may be associated with Mexico's importation of cattle from Central America. A breakdown in quarantine procedures was first observed 2 years ago when Mexico imported cattle from Panama into Acapulco without notifying the Screwworm Commission. It is reported that as many as 15,000 head of cattle have recently been imported into Mexico from Central America.

In response to the outbreak, the United States and Mexico initiated an emergency eradication effort involving intensive field surveillance and dispersal of sterile flies in the affected areas. Mexico is responsible for the field surveillance and is reported to have dedicated the work of about 526 people to the outbreak.

APHIS, through the United States–Mexico Commission for the Eradication of Screwworms, has assumed the role of providing and dispersing the necessary sterile flies and monitoring the quality control of field work. While no new employees have been hired, approximately 100 planned Commission personnel reductions have been delayed because of the outbreak.

APHIS is also providing aircraft for dispersal of sterile flies in Mexico to ensure that the parasite is again eradicated. The Commission is producing and dispersing 198 million sterile flies per week to control the outbreak in Mexico. Due to the outbreak, an additional 4.5 billion sterile flies must be produced through September 1992. The situation also requires 3 additional months of fly dispersal in Guatemala and Belize because these countries border the outbreak areas in Mexico.

If no further cases are detected, operations will end in December 1992 at an estimated cost of \$8 million.

In 1991, APHIS also signed cooperative screwworm-eradication agreements with El Salvador, Honduras, and Nicaragua. Dispersal of sterile flies is ongoing in El Salvador and Honduras while dispersal in Nicaragua is pending termination of the Mexican outbreak. It is estimated that the screwworm eradication program in these three countries has been delayed 6 months because of the outbreak in Mexico.

APHIS' goal is to eradicate screwworms as far south as the Darien Gap in Panama. Panama provides the ideal site for a permanent screwworm barrier from both technical and fiscal viewpoints.

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## **Infectious Bursal Disease**

Recent reports from Indonesia (Claude Nelson, International Services, APHIS) indicate a severe problem in that country's industry caused by a new strain of infectious bursal disease virus (IBDV), which has yet to be reported in the United States. According to officials in Singapore, the strain of IBDV presently moving throughout Asia is similar to that which affected Europe. A similar strain has also been observed and isolated from poultry in Japan and the Peoples Republic of China in 1990, from Thailand in early 1991, and from Indonesia in the latter part of 1991.

The first outbreak of infectious bursal disease (IBD) in the United States was observed on farms in the neighborhood of Gumboro, DE, during 1962. Gumboro disease became a synonym for the condition and was described by Cosgrove the same year. The causative agent of IBD has been classified as a diplomavirus, a solvent-resistant arbovirus.

IBD has been reported from most major poultry-producing areas of the world. Incidence is greatest in chicks 3–6 weeks of age. In fully susceptible flocks, the disease appears suddenly with morbidity approaching 100 percent. The earliest outbreaks are reported in 11-day-old chicks, and mortality averages 4–8 percent. Incubation takes less than 24 hours; clinical signs develop in 2–3 days and last 5–8 days.

The first cases of IBD in Indonesia were reported in 1976. The disease is estimated to have existed in approximately 5 percent of the poultry flocks. In September 1991, high mortality rates in broiler poultry farms were reported in West Java. Within several weeks, the outbreak had spread through central Java with the disease peaking in late October or early November. During the peak of the outbreak, mortality rates reached 40–70 percent from broiler flocks having no prior experience with IBDV and receiving no vaccination. In broiler and layer flocks previously infected with IBDV and vaccinated against it, mortality rates were reported to be 5–25 percent following recent exposure. It appears that a new, virulent strain of IBDV is causing severe losses in Indonesia's poultry industry.

To control IBD, Indonesian poultry premises established a good sanitation program that involved cleaning, detergent washing, disinfection, and a 2- to 3-week hiatus between stocking. This control regimen was undertaken because water, feed, and droppings are known sources of virus. Farms established a vaccination program with emphasis on early vaccination (7 days of age or sooner). Layers are immunized at 6- to 7-day intervals at least three times. The theory is that a vaccination program and the passage of time will allow the highly virulent strain to become less virulent.

The disease outbreak has received considerable media attention in Indonesia. Indonesian Veterinary Services has initiated an intensive epidemiologic effort to determine how the new virus strain entered Indonesia, where it came from, and how it was spread throughout the industry.

## **Reference**

Hofstad, M. S.; Calnek, B. W.; Helmboldt, C. F.; Reid, W. M.; Yoder, H. W., Jr. 1978. Diseases of poultry. 7th ed. Ames, IA: The Iowa State University Press: 647, 648.

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## **Previous AHS Outbreaks in Spain**

AHS was first reported from mainland Europe in October 1966. The serotype 9 outbreak occurred in southern Spain in the Province of Cadiz. An additional 35 outbreaks were identified in the proximity of the primary case and resulted in 77 equid deaths and the destruction of 900 animals. With the slaughter of the last contact animal in November 1966, and no appearance of disease in sentinel animals moved into the region, Spain declared itself free of AHS on January 31, 1967.

During 1965–66, AHS was also reported in Algeria, Morocco, and Tunisia. Subsequent studies attribute the source of the Spanish outbreak to the wind-borne transportation of vectors from northern Africa; however, the illegal importation of infected horses from Morocco was not conclusively excluded.

In September 1987, AHS serotype 4 was isolated in the central Spanish provinces of Madrid, Toledo, and Avila. The first clinical cases appeared on premises near the safari park called El Rincon. The affected premises and safari park are about 34 miles southwest of the city of Madrid. Epidemiologic investigations revealed that equids within the park had died during July and August. The index cases were believed to be two viremic zebras illegally acquired from the Alicante safari park in southern Spain. These zebras were part of a consignment of eight zebras imported from Namibia in September 1987. By mid-month, a total of 7 outbreaks had been confirmed in the Madrid area with 162 officially recognized equid deaths.

AHS was not reported again in Spain until the following fall, when serotype 4 was associated with a large polo facility in the southern Province of Cadiz. The 1988 epizootic resulted in 81 deaths with outbreaks confined to nearby farms and 1 other polo club. This AHS outbreak was approximately 350 miles south of the 1987 Madrid epizootic. Specifics regarding the 1988 outbreak of AHS in Spain are detailed in the Spring 1989 issue (vol. 17, no. 3) of the Foreign Animal Disease Report.

In July 1989, AHS reappeared at the Sotogrande Polo Club in Cadiz, producing a very extensive and severe epizootic. Investigations revealed that the disease was first established in unvaccinated polo ponies imported from South America. The occurrence of disease in immunologically naïve animals introduced to this area indicated that virus was circulating in the animal population but unable to manifest itself in local vaccinated equids. In addition to the Province of Cadiz, the Provinces of Badajoz, Huelva, Sevilla, and Cordoba also reported AHS, resulting in a total of 113 outbreaks. In September and October 1989, the disease was reported in Portugal in the southern regions of Algarve and Alentejano. Those outbreaks affected 340 horses, 20 mules, and 10 donkeys. By November 1989, the AHS epizootic on the Iberian Peninsula covered an area 270 km x 250 km.

In September 1990, Spain reported cases of AHS serotype 4 for the fourth consecutive year. The outbreaks were confined to the Guadalquivir River basin in the Province of Malaga. The 56 confirmed outbreaks affected recently vaccinated and unvaccinated foals, vaccinated and unvaccinated mares, and two adult mules. As a result of the poor vaccination coverage in this area, Spain instituted an intensive vaccination program throughout the southern region. The program called for (1) revaccinating all adult equids (from October 1990 through February 1991) and (2) vaccinating foals twice between 3 and 6 months of age. Owners of all equids were required to have official documentation of vaccination for each animal available on request. In addition, vaccinated animals were required to be registered and branded with an "X" on or near the left shoulder or tattooed on the inside of the upper lip. Portugal reported no AHS outbreaks in 1990 and, after a 1-year period, terminated its vaccination program.

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### African Horse Sickness Control Program in Spain



In 1991, no outbreaks of AHS were reported from Spain. Control measures continued throughout Andalusia, including vaccination of newborn foals as described above and restriction of movement of equids, especially out of southern Spain. A regionalization scheme has been implemented in Spain with the cooperation of the European Economic Community (EEC) [see map]. This plan calls for the creation of a protection zone bordered by a surveillance zone. The surveillance or buffer zone comprises an area along the northern border of Andalusia, where vaccinations had been prohibited in the previous 12 months. Horses may not move out of the infected region until 2 years have transpired without any AHS cases and 1 year after the last vaccination. Some countries are importing horses from the infected region but are requiring (1) a specific import license with a valid health certificate; (2) that importation occur only between February 1 and April 30, when vector activity is low; and (3) a 40-day preexport quarantine with blood sampling and testing in officially approved premises.

At the close of 1991, health officials investigated the suspicious deaths of three mules in the Province of Cadiz. Laboratory findings demonstrated the cause of death to be a bacteriologic agent. This finding was supported when two costabled horses with similar symptomatology responded to antibiotic treatment. It should be noted that this suspect case occurred in early January, a period which falls well outside the normal active season for the vector of AHS. To date, Spain has remained free of AHS and is implementing internationally recognized zoosanitary procedures to be declared free of the disease. Portugal declared itself free of AHS in 1991 in accordance with EEC guidelines.

### **Spain's Present AHS Control Program**

In mid-December 1991, APHIS was invited to Spain to observe the AHS campaign and visit the equestrian facilities for the 1992 Olympics in Barcelona. (AHS data collected during this country visit were to be used at a risk assessment focus course sponsored by APHIS' Policy and Program Development unit.)

Initial meetings in Madrid with the Ministry of Agriculture centered on Federal coordination of the AHS program with animal health officials from Andalusia. Discussions also involved the recent EEC review of the Spanish AHS control program. APHIS representatives visited both the national diagnostic laboratory in Algete and the nearly completed animal disease research facility at Valdeolmos.

The next stop made by the APHIS team was to the Andalusian animal health headquarters in Seville. The history and present status of the AHS program in southern Spain were reviewed, including disease surveillance, border control of animal movements, vaccination verification, and vector monitoring and control. In addition, the team visited various public and privately owned horse installations in and around Seville.

The team visited three sites in Barcelona: the polo club, the veterinary school, and the equestrian cross-country course at El Montanya. The APHIS team was escorted to all the sites by the regional veterinarian-in-charge and representatives of the Olympic Committee responsible for equestrian sports. The equestrian facilities open July 11 and close August 15, 1992. The polo club arena will host the jumping and dressage events and is expected to stable 250 horses during the Olympic events. The Barcelona School of Veterinary Medicine will be available for medical emergencies and animal isolation during the Olympics. The last visit was to the El Montanya grounds, where the 3-day equestrian event will be held. This course is located about 40 miles north of Barcelona in the pre-Pyrenees, and as a result, temperatures remain cooler by 6–8 °F. Approximately 100 to 115 contestant horses will be stabled here.

## **Requirements for Horses Competing in the 1992 Olympics**

In conjunction with the International Equestrian Federation (FEI), the International Conference of Racing Authorities (ICRA), and the International Office of Epizootics (OIE), Spanish veterinary authorities established criteria for entry of horses into Spain and their participation in the Olympics. Horse entry was based on (1) the health status of the animal (valid health certificate) and (2) its country of residence in the last 6 months. These criteria distributed the animals into one of four major groupings.

One category of horses is those from countries where AHS is present and no control program is being instituted; these animals were excluded from entry.

Another category includes horses from countries that have AHS present but also have control programs in place. Competing horses from these countries were required to undergo a predispatch quarantine with insect vector protection (at preembarkation, during transport, and at the place of embarkation) as well as a quarantine upon entry into Spain. In addition, these horses were required to have valid health certificates with vaccination status.

Horses coming from countries which are recognized free of AHS but have other quarantinable equine diseases (e.g., vesicular stomatitis, dourine, glanders, equine encephalitides) were not allowed to enter Spain unless they carried proof that they were free of disease and had not resided in areas where disease has been active in the last 6 months. Health and vaccination records were also required of these animals.

The last category is comprised of horses entering Spain from countries recognized as free of major equine diseases. Entry and participation in the Olympic games by horses from "disease-free" countries still required proper health documentation.

Members of the APHIS team asked about the present horse disease situation in the Barcelona area. They were told that no diseases found in the Catalunya region would have any impact on the health of competing horses. It should be noted that AHS has never been reported from Catalunya, and the closest known outbreak occurred 300 miles away, in Madrid, in 1987. An AHS serologic survey conducted in Catalunya amongst 1,500 randomly sampled horses found no animals positive on enzyme-linked immunosorbent assay (ELISA).

In the summer of 1991, a pre-Olympic equestrian trial was held in Barcelona. Import requirements as described above were implemented. Horses from various European countries participated, and no disease incidents were reported.

## **Requirements for Horses Returning to the United States**

Upon conclusion of the equestrian events at the 1992 Olympics, horses reentering the United States must comply with current regulations. APHIS import requirements stipulate that horses entering the United States from any country with AHS must enter an APHIS-approved quarantine facility in the United States for 60 days. They may, however, travel to a country that is recognized free of AHS, and after 60 days in that country, enter the United States under normal equine entry procedures.

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## Serrano Ham Project

The survival of foot-and-mouth disease virus, African swine fever virus, hog cholera virus, and swine vesicular disease virus was studied in typical Spanish dry-cured meat products (Serrano hams and Iberian hams, loins, and shoulders). For each disease, 31 to 35 Iberic black and 31 or 32 white pigs were infected and slaughtered in Spain at the estimated peak of viremia. Cuts from their carcasses were transferred to the Plum Island Animal Disease Center and used to prepare the meat products tested. Samples taken at the time of slaughter and at intervals during the processing were assayed for virus survival by in-vitro and in-vivo techniques.

The Iberian hams were free of viable foot-and-mouth disease virus and swine vesicular disease virus by day 168 and free of viable African swine fever virus and hog cholera virus by day 140.

The following tabulation shows when Iberian pork loins and white Serrano hams became free of viable disease-causing viruses:

	<b>Iberian loins</b>	<b>Serrano hams</b>
Foot-and-mouth disease virus	Day 42	Day 182
African swine fever virus	Day 112	Day 140
Hog cholera virus	Day 126	Day 140
Swine vesicular disease virus	Day 56	Day 539

This work tested industrial procedures to assure that importation and commercialization of these dry-cured meat products will not pose a risk to U.S. livestock.

(C. Mebus, National Veterinary Services Laboratories, VS, APHIS, USDA, Greenport, NY, 516-323-2500)

## Report on Bluetongue Virus Isolates for 1991

The Diagnostic Virology Laboratory of the NVSL in Ames, IA, isolated bluetongue virus from five accessions in 1991. Three serotypes of the virus were isolated from animals in three States. Serotype 10 was found in bighorn sheep and domestic sheep in California. Serotype 17 was isolated from the same domestic sheep in California, as well as from domestic sheep in Idaho and bighorn sheep in New Mexico. Serotype 13 was found in a Persian gazelle in California. All three bluetongue virus serotypes have previously been reported in the United States.

(Dr. J. Pearson, NVSL, VS, APHIS, USDA, 515-239-8551)

## Errata

The primary coauthor of "Focus on Rinderpest, an Update" in the spring issue (no. 20-1) was Dr. P. B. Rossiter, ODA/GOK Rinderpest Control Project, NVRC KARI MUGUGA. P. O. Box 32, Kikuyu, Kenya. We regret the omission of his name from the byline.

K. C. Meldrum, chief veterinary officer with Great Britain's Ministry of Agriculture, Fisheries and Food, wrote to the Foreign Animal Disease Report editor in July to call attention to errors in the article about bovine spongiform encephalopathy (BSE) in the Spring 1992 issue. He wrote,

On page 6, . . . it is suggested that specified offals (SBO's) from all bovines may no longer be fed to warmblooded animals. The prohibition actually applies only to specified offals from bovines over the age of 6 months at the time of slaughter. In addition, it extends to the feeding of SBO's to all animals and poultry and not just mammals. "Animals" is further defined in the statutory instrument as any kind of mammal except man, and any kind of four-footed beast which is not a mammal.

Secondly, in [a later paragraph] on the same page, the statement concerning consumption of milk ignores the fact that it is still permissible that milk from a suspect case may be fed to its own calf.

We appreciate Dr. Meldrum's interest in the original article, and we are happy to publish this clarification.

Questions about the FAD Report may be sent to:

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